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Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies.	Rulemaking R.06-04-009

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COMMENTS OF THE GREEN POWER INSTITUTE ON TYPE AND POINT OF REGULATION ISSUES FOR THE NATURAL GAS SECTOR

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Introduction

Pursuant to the November 28, 2007, *Administrative Law Judge's Ruling Requesting Comments on Type and Point of Regulation Issues for the Natural Gas Sector*, as modified by the December 10, 2007, *Administrative Law Judges' Ruling Extending Deadline for Comments and Incorporating Responses to Staff Data Request on Natural Gas Issues*, in R.06-04-009, the **Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies**, the Green Power Institute (GPI) respectfully submits these *Comments of the Green Power Institute on Type and Point of Regulation Issues for the Natural Gas Sector*. Our Comments address the issues and questions in the ALJ's *Ruling Requesting Comments*.

Benefits of a Market-Based Approach

A market-based approach, such as a cap-and-trade system, has the virtue of being able, at least theoretically, of producing a least-cost solution to society's efforts to reduce greenhouse gas emissions. Applying a cap-and-trade system limited to the electricity sector may very well be able to assist in the reduction of greenhouse gases from this sector, and this is already under serious consideration in this proceeding. However, applying a cap-and-trade system limited to the natural gas sector may prove to be counterproductive to overall efforts to reduce greenhouse gases, due to fundamental differences between the natural gas and electricity sectors, as discussed further below.

The GPI favors the use of competitive market mechanisms wherever they can be applied effectively and to the ultimate advantage of consumers. Natural gas is used as an energy source for a variety of applications in the residential, commercial, and industrial sectors.

Many of these end uses can derive their energy needs from non-natural gas sources, as well as from natural gas. As a result, in order to effectively regulate the greenhouse gas emissions from the natural gas sector, the best way to apply a market-based solution, such as a cap-and-trade system, is to do so to the entire non-transportation, non-electric sector of the economy, in order to allow tradeoffs among the different fossil fuels to be properly considered and weighted for the range of applications currently served in whole or part by natural gas. Even better would be to institute a full, multi-sectoral market for greenhouse gas emissions allowances.

Fundamental Difference between the Natural Gas Sector and the Electricity Sector

The Joint Commissions and the parties to this proceeding have invested a good deal of effort in developing a regulatory scheme under AB 32 that can reduce the greenhouse gas emissions associated with supplying electricity to California customers. In this set of *Comments* we are addressing issues relating to regulating the greenhouse gas emissions associated with California's natural gas sector. It is important to note that there is a fundamental difference between reducing greenhouse gas emissions in the electricity sector, and in the natural gas sector. In the electricity sector, greenhouse gas emissions can be reduced by two different and complementary approaches: increasing the efficiency of energy use, and adjusting the mix of energy sources used to supply electricity to low or zero greenhouse gas-emissions sources. In the case of the natural gas sector efficiency measures can be taken to reduce greenhouse gas emissions, but there is no parallel way to adjust the mix of energy sources to reduce carbon intensity—natural gas is natural gas.[1] As a result, instead of energy users using natural gas in a gas-sector-only capped world, they may seek energy products from unregulated energy sources, some of which produce more greenhouse gas emissions per unit of delivered energy than natural gas.

[1] It is possible to produce pipeline-quality gas from biomass and biogas sources, but the demand for these resources in other energy markets, including transportation fuels and electricity, makes it highly unlikely, in the GPI's opinion, that renewable resources will make a significant contribution to pipeline gas supplies in California.

Natural Gas in the Context of Fossil Fuels

Question Q4 on page 4 of the ALJ's *Ruling* begins: "Should GHG emissions from the natural gas sector be capped under AB 32?" This is equivalent to asking whether the amount of natural gas that can be used in California should be capped under AB 32. Capping the amount of greenhouse gas emissions from the natural gas sector is fundamentally different than capping the amount of greenhouse gas emissions from the electricity sector. Natural gas is a fossil fuel, with inherent physical and chemical characteristics. Electricity, in contrast, is not an energy resource. Electricity is an energy carrier that can be produced from a variety of energy resources, both fossil and non-fossil. Source switching does not really apply to the natural gas sector, as it does in the electricity sector.

Climate change is primarily being caused by the massive global human enterprise that removes carbon from geological storage, in the forms of coal, petroleum, and natural gas, and transfers it to the atmosphere, in the forms of the two principal anthropogenically-generated greenhouse gases, carbon dioxide and methane. The global carbon cycle is enormously complex, but it is now widely understood that the amount of carbon that is being added to the atmosphere each year from fossil sources is greater than the amount of carbon that is accumulating in the atmosphere, and that fossil fuel use is the single greatest contributor to anthropogenic global climate change. In effect, reducing society's greenhouse gas emissions is largely a matter of reducing fossil fuel use. However, not all fossil fuels are equal in terms of the amount of the greenhouse gas emissions produced in association with a unit of delivered energy. Coal has approximately twice the carbon intensity of natural gas in terms of carbon per unit of chemical energy, while petroleum is midway between the two. Thus, for example, substituting natural gas for coal in electricity production cuts the amount of greenhouse gas emissions by more than half (efficiency differences also come into play). Conversely, if one were to substitute coal for natural gas for a particular application, because statewide natural gas use is capped but coal is not, this would obviously be a disaster, as far as reducing overall greenhouse gas emissions is concerned.

Coal is already effectively banned from use in new, baseload electricity generating units supplying the California market, due to the enactment of SB 1368 and Decision D.07-01-039 in this proceeding, as well as a complementary Decision in the greenhouse gas rulemaking at the CEC pertaining to the public-sector utilities. These Authorities together impose an emissions performance standard (EPS) on the acquisition of new baseload electricity supplies for serving California's market. The EPS is set at the level of the emissions produced by a combined-cycle natural gas-based generating unit. The reduction of carbon emissions from overall fossil fuel use requires that a regulatory system be devised that allows the trading of universal emissions allowances among all applications that use fossil fuels. Regulation strictly within the natural gas sector would not be able to take into account the important tradeoffs among different kinds of fossil fuels that can serve various end-use applications, and could lead to unexpected and perverse results.

Point of Regulation for Natural Gas Sector

Section 3.4 of the ALJ's *Ruling* addresses issues relating to the point of regulation that should be used in regulating greenhouse gas emissions from the natural gas sector. As we have stated above, we believe that the natural gas sector should be regulated with regards to greenhouse gas emissions within the context of regulation of all non-transportation, non-electricity using applications, with all fossil fuels included in the regulatory regime, denominated based on their respective carbon intensities.

As far as applying greenhouse gas regulations to the natural gas sector, we believe that it would be appropriate to regulate the natural gas sector using a load-based model similar to the load-based model currently under consideration for the electricity sector. In this model, natural gas retail sellers would be required to acquire emissions allowances for the natural gas they provide to their customers. Their emissions could be based on an assumption of one-hundred percent conversion to CO_2 for the gas, although leaks of CH_4 from the pipeline system also should be taken into account somewhere in the overall accounting system. Methane is a much more potent greenhouse gas than CO_2.

Sectoral Tradeoffs

Many of the applications for which natural gas is used can be supplied by other energy forms, including electricity. The competition for energy sources among various applications is usually settled in the competitive marketplace, based on cost factors alone. In a carbon-constrained world, greenhouse gas emissions will also have to be taken into account in the selection of energy resources. This can be done using price signals, such as by incorporating the cost of emissions allowances into the cost of fossil fuels, or via a carbon tax, or it can be accomplished by imposing physical constraints on resource use or emissions, or by using a combination of the two methods, as is done in a cap-and-trade system.

The future competition among energy sources is likely to become even more complex than it is today, as transportation applications begin embracing electricity as well as liquid fuels, as an energy source (plug-in hybrids are expected to be introduced in the next couple of years, and all-electric cars may not be much further away). Tradeoffs of these sorts have traditionally been based on economic factors alone, but in the future the potential greenhouse gas emissions consequences of such tradeoffs will also have to be taken into account. The best way to do this is to design a regulatory system in which all emissions allowances are denominated in a universal greenhouse gas unit, such as tons of CO_2 equivalents, which can be used to retire any greenhouse gas emissions, and can be traded among the various sectors of the economy.

Universal Carbon Tracking

The Green Power Institute has been a consistent advocate for the establishment of a comprehensive regional electronic greenhouse gas emissions tracking system for the electricity sector. In fact, we believe that in order to achieve the overall goals of AB 32, as well as those in the 2005 Governor's Executive Order on greenhouse gases, we will need to develop a comprehensive, regional, multi-sectoral tracking capability for greenhouse gases. We strongly support the steps that California is taking to regionalize our approach to fighting climate change, such as the establishment of the Western Climate

Initiative, and urge the state to work towards making these initiatives multi-sectoral, rather than concentrating only on the electricity sector. Ultimately the only way to allow tradeoffs among different energy sources and carriers for a given application is to provide for multi-sectoral greenhouse gas emissions allowance tracking and trading.

Recommendation and Comparison of Alternatives

We believe that, unlike in the case of the electricity sector, imposing greenhouse gas targets on the natural gas sector alone, in the absence of equivalent regulation of some of the energy sources with which natural gas competes, has the potential to lead to some unexpected and perverse results. Proper regulation of fossil-fuel carbon should be done in the context of regulating all three fossil fuels on an equivalent, per ton of CO_2 equivalent basis, so that the relevant tradeoffs among the different fossil fuels, including considerations of carbon intensity, can be taken into account.

Our most important recommendation is that the Joint Commissions devote as much of their resources as possible to the development of an electronic regional reporting and tracking system for greenhouse gases, working through the Western Climate Initiative and WREGIS frameworks, as well as taking advantage of other opportunities that may arise. Such a system would form a solid foundation for whatever direction the future AB 32 compliance program takes, and whatever decisions are made regarding point-of-regulation and other matters.

Dated December 17, 2007, at Berkeley, California.
Respectfully Submitted,

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PROOF OF SERVICE

I hereby certify that on December 17, 2007, I have served a copy of the COMMENTS OF THE GREEN POWER INSTITUTE ON TYPE AND POINT OF REGULATION ISSUES FOR THE NATURAL GAS SECTOR upon all parties listed on the Service List for this proceeding, R-06-04-009. All parties have been served by email or first class mail, in accordance with Commission Rules.

Gregory Morris